

VOLVO

Volvo Trucks North America, Inc.

June 28, 1999

Dear Dealer Principal,

Subject: **Low NOx Rebuild Kits**

An agreement has been reached between the EPA (U.S. Environmental Protection Agency) and VTC (Volvo Truck Corporation) in regard to diesel engine emissions. A similar agreement has been reached between VTC and the CARB (California Air Resources Board). This letter provides information concerning the sections of the agreement which deal with engine rebuilds. Please note that the following information is preliminary. More information will be provided when the makeup of the rebuild kits is finalized.

Under the agreements, VTC will make available engine rebuild kits to lower the amount of NOx (oxides of nitrogen) in the exhaust from certain specified VE D12 Model Year (MY) 1994-1998 engines and VE D7 MY 1998 engines. These rebuild kits and detailed instructions for their applicability and use will be made available to you starting in approximately December, 1999 (this date depends upon when Judge Kennedy of the U.S. District Court for the District Court of Columbia formally enters the agreement reached between the EPA and VTC).

To implement the agreements with EPA and CARB, VTC, with the assistance of Volvo Trucks North America, has established a Service Program in order to reprogram the specified VE D12 and VE D7 engines as vehicles are brought in to have their Volvo engines rebuilt. The engine rebuild kit will consist of data-sets and software only, which will be available to you in the VDA system for reprogramming, using VCADS PRO.

The engine models subject to this rebuild program will be specified in the instructions. You will be required to reprogram an engine if the engine meets any one of the conditions discussed on page 3 of the EPA's May 27, 1999 letter to Heavy Duty Engine Rebuilders, a copy of which is attached.

This reprogramming for the rebuild must be provided at no charge to the customer. The reprogramming is anticipated to take less than one hour; more specific information will be provided with the rebuild kits. Normal applicable charges apply to any reprogramming for other reasons and are not the responsibility of VTC or Volvo Trucks North America.

This reprogramming can only be performed by authorized Volvo dealers. Any non-affiliated facilities may send the Engine Control Units from trucks brought in for rebuild to an authorized dealer for reprogramming with the appropriate rebuild kit.

Enclosed for your information please find two letters: The May 27, 1999 letter from the EPA and the June 21, 1999 letter from CARB. Both letters are being sent to all Heavy Duty Engine Rebuilders.

Greg Holderfield
Manager, Service Support - Powertrain

Volvo Trucks North America, Inc.
7800 National Service Rd. (27409)
PO Box 26115
Greensboro, NC 27402-6115

Telephone
(336) 393-2000



Winston H. Illickox
Secretary for
Environmental
Protection

Air Resources Board

Alan C. Lloyd, Ph.D.
Chairman

2020 L Street • P.O. Box 2815 • Sacramento, California 95812 • www.arb.ca.gov



Gray Davis
Governor

June 21, 1999

TO: Heavy-Duty Engine Rebuilders

SUBJECT: Low-NOx Rebuild Program

This letter contains important information regarding the Low NOx Rebuild Program required under the recent settlements between the California Air Resources Board (ARB) and seven heavy duty diesel engine manufacturers (identified below) applicable to certain heavy duty engine models. The ARB/engine manufacturer settlements are similar to settlements reached between the same engine manufacturers and the United States Environmental Protection Agency (U.S. EPA). This letter includes information about:

- Your obligations with respect to installing Low NOx Rebuild kits on engines you rebuild;
- How you can determine when you must use the Low NOx Rebuild kits during an engine rebuild, what engines are covered, and what kit is required;
- How you can determine what kinds of engine repair or maintenance are considered to be rebuilds subject to the Low NOx Rebuild Program;
- What the potential consequences are of failing to use the appropriate Low NOx Rebuild kit on a covered engine; and
- How you can obtain additional information regarding this program.

Please read this letter carefully. If you have any questions please contact the ARB at the address set forth below.

The ARB believes that around 1990 most diesel engine manufacturers began installing illegal software that controls the operation of their diesel engines, and that the controlling software does not comply with either

California or federal law. While the diesel engine manufacturers dispute whether the software is illegal, all parties agree the software substantially increases emissions of oxides of nitrogen (NOx), a harmful pollutant, during highway driving. As part of their settlement agreements with the ARB, Caterpillar Inc., Cummins Engine Company Inc., Detroit Diesel Corporation, Mack Trucks Inc., Renault V.I., Volvo Truck Corporation, and Navistar International Transportation Corporation agreed to provide Low NOx Rebuild kits for diesel engines manufactured by them to decrease NOx emissions from the engines. The Low NOx Rebuild kits will consist of software and (in some cases) minor hardware parts only. The Low NOx Rebuild will occur at the time of engine rebuild to minimize the burden on vehicle owners and service facilities. The installation of Low NOx Rebuild kits will significantly reduce NOx emissions over the life of the engines.

The availability of Low NOx Rebuild kits will be phased in according to schedules determined by the engine manufacturers. Navistar will provide kits for 1998 model year engines only; all the other listed manufacturers will supply kits for either model year 1993 through 1998 or for model year 1994 through 1998, at their option. The engine manufacturers' authorized dealers, distributors, repair facilities and rebuild facilities will be notified directly by their respective engine manufacturer(s) when the kits are available. All other rebuilders may check Low NOx Rebuild Kit availability either:

- By contacting the engine manufacturer's authorized dealers or rebuilders.
- By fax from U.S. EPA by telephoning the U.S. EPA Automated Telefax System at (202) 564-9660 Press 3 for "other documents about air pollution issues", then key in either 320 for a copy of this letter and a list of responses to frequently asked questions (FAQ), or key in the appropriate manufacturer code¹. Follow instructions to key in your fax number. The documents will be sent to your fax machine. The greeting may be skipped by pressing the # key.

¹Manufacturers have been assigned the following codes in the U.S. EPA Automated Telefax System: Caterpillar - 321, Cummins - 322, Detroit Diesel - 323, Mack and Renault - 324, Volvo - 325, and Navistar - 326.

June 21, 1999

- Via the Internet on U.S. EPA's Air Enforcement Division web page at [www.U.S. EPA.gov/oeca/ore/aed/](http://www.U.S.EPA.gov/oeca/ore/aed/). Click on the "Diesel Engine Settlement" button. The "Diesel Engine Settlement" page contains information regarding all aspects of the settlement. Once there, select the button for the "Low NOx Rebuild program".
- By writing to the ARB's Mobile Source Control Division at the address below, specifying the name(s) of manufacturer(s) for which you rebuild engines:

Air Resources Board
Mobile Source Control Division
P.O. Box 8001
El Monte, California, 91731
Attn: Low NOx Rebuild Program

For the purposes of this letter, an engine rebuild means an activity occurring over one or more maintenance or repair events involving the disassembly of the engine, including removal of the cylinder heads, and the replacement or reconditioning of more than one Major Cylinder Component in more than half of the cylinders for heavy heavy-duty² engines that have accumulated more than 290,000 miles or for medium heavy-duty³ engines that have accumulated more than 185,000 miles. For heavy heavy-duty engines with fewer than 290,000 miles or medium heavy-duty engines with fewer than 185,000 miles, an engine rebuild means an activity where the

²Heavy heavy-duty diesel engines are sleeved and designed for multiple rebuilds. Their rated horsepower generally exceeds 250 hp. Vehicles using these engines are normally tractors, trucks, and buses used in inter-city, long-haul applications. These vehicles normally exceed 33,000 lbs. GVWR.

³Medium heavy-duty diesel engines may be sleeved or non-sleeved and may be designed for rebuild. Rated horsepower generally ranges from 170 to 250 hp. Vehicles utilizing these engines typically include school buses, tandem axle straight trucks, city tractors, and a variety of special purpose vehicles such as small dump trucks, and trash compactor trucks. Typical applications for these vehicles would include commercial short haul and intra-city delivery and pickup. Engines in this group are normally used in vehicles whose GVWR varies from 19,500-33,000 lbs.

June 21, 1999

service event includes replacement or reconditioning of more than one Major Cylinder Component in all of the engine's cylinders. Major Cylinder Component means a piston assembly, cylinder liner, connecting rod, or piston ring set.

Once available, a Low NOx Rebuild kit must be used whenever one of the applicable engines is rebuilt. Failure to install a Low NOx Rebuild kit as required or removal of a Low NOx Rebuild kit once installed may constitute tampering under Section 27156 of the California Vehicle Code. Section 43008.6 of the Health and Safety Code provides for a maximum civil penalty of \$1,500 for each violation of Vehicle Code Section 27156. The ARB may consider each engine involved as a separate violation.

The engine manufacturer will authorize its authorized dealers, distributors, repair facilities, and rebuild facilities to install Low NOx Rebuild kits at no added cost to the owner of the engine above the amount the owner would otherwise pay to have the engine rebuilt or repaired. Additionally, the engine manufacturer will make available, either directly or through its affiliated distribution networks, at no added cost, the appropriate Low NOx Rebuild kit to any non-affiliated engine rebuild or person who requests it. The customer acquiring a Low NOx Rebuild kit will not be charged for any required reprogramming through its authorized dealers, distributors, repair facilities, and rebuild facilities, including any computer connection fees.

If you have any questions regarding Low NOx Rebuild Kits, please call the On-Road Controls Branch at (916) 323-6169.

Sincerely,



Michael P. Kenny
Executive Officer